**POLI 395: Applied Research Methods**

**Spring 2021**

**Class Information**

Class time: Tuesdays and Thursdays, 1:30 p.m.-2:50 p.m. REMOTE
Lab time: Thursdays, 6:30-7:25 p.m. REMOTE

Contact Information

Instructor: Dr. Rick Wilson (rkw@rice.edu)
Office hours: Monday, 1:00 - 3:00 p.m.; Wednesday, 11:00 – noon. Or by appointment.

Lab instructor: Santiago Lopez (Santiago.Lopez.Alvarez@rice.edu)
Office and office hours: - Wednesdays: 9:00 - 10:00 am; Thursdays: 5:30 - 6:30 pm

**Prologue**

This will be an unusual time to take this course. The course requires a great deal of group effort. However, we will have to work together, apart. I considered offering the course under dual delivery. However, it was going to be extremely difficult to bring people together into group projects under that mode. My preference is in-person teaching, but getting people together into groups is impossible during class time. So, we will be running the class remotely. You will find you spend a lot of time with your group members - often in breakout rooms. However, I am sure we can make this work in very strange times.

**Course Objectives and Learning Outcomes**

This course introduces students to basic ideas in scientific epistemology, social science research design, and the application of all these ideas to substantive questions in political science.

Students will be able to:

1. understand basic approaches to the scientific study of the social world to substantive topics in political science;
2. execute and interpret statistical analysis of quantitative political data to answer substantive questions in political science; and
3. recognize and understand threats to inference based on empirical data in political science, including the weaknesses of research designs and statistical analyses.

**Required Texts and Materials Required Texts**

Imai, Kosuke. 2017. *Quantitative Social Sciences: An Introduction*, Princeton University Press.

Toshkov, Dimiter. 2016. *Research Design in Political Science*. Palgrave Mcmillan.

(Note: Both can be rented for the semester)

**Recommended for a background on coding in R**

Grolemund, Garrett and Hadley Wickham. 2017. R for Data Science. (Free on-line).

**Software**

- This course will teach material primarily through R. R is an awesome open source, free statistical program. I recommend that before you install the necessary software enumerated below you 1) update your operating system and then avoid doing it again during the semester, OR 2) if you don't want to update it now because you are skeptical of the newest release, you wait until the end of the semester to update your operating system. Same with the version of R that you install. Sometimes things that work perfectly fine with an OS version suddenly stop working under others. Therefore, to make this road smoother, try to stick to one version of OS and R throughout the semester.
- You will need to install R on your own computer. R is free and available for Windows, Macintosh and most distributions of Linux from http://cran.r-project.org/. RStudio is also free and available for Windows and Macintosh at http://www.rstudio.com. R is the actual software and RStudio is a GUI or interphase that will make the interaction with R much easier. Download and install R first and then RStudio. It should not be troublesome but if you are struggling with the installation, I strongly recommend looking for a tutorial online ideally published within the last year (this is a nice example for Mac users: http://brunalab.org/las6292/2019/01/23/installing-r-and-rstudio/).
- All students must have a valid Rice e-mail address and login (and access to Canvas) to participate in this course.

**Grade Policies and Assignment Details**

**Grade components**

- R lab exercises: 25%
- Individual and group assignments: 25%
- Group paper: 25%
- Group poster: 15%
- Participation: 10%

**Exams**

There are no exams in this class. Posters will be presented during the assigned final exam period and papers are due at the end of the exam period (May 12).

**Attendance**

Attendance is strongly advised. Much of the material to be covered is available prior to the class. Class time will be spent on multiple group projects. Class time will also provide you with an opportunity to ask questions to the instructor concerning readings, projects, etc. For the most part, the class is not be a lecture-based class. Instead it will involve considerable hands-on work. Because of the course being delivered remotely, you will spend considerable time with your group in breakout rooms.

**R lab exercises**

There is a one-hour R lab each week. That lab will be staffed by Santiago Lopez, a graduate student who will help you with learning R (more below concerning R). Each lab will have an exercise that will be graded. You may work with others in completing these exercises. However, you must turn in your own work: each character and number in your code should be typeset by you. Lab exercises are due at 10 am on Friday following the lab. The answer key will be posted at noon on Friday. The following week's lab assignment will also be posted at noon.

**Individual and group exercises**

Toward the beginning of the semester you will select into a group. The group will focus on a specific research question and over the course of the semester you will learn how to answer your group's question. Throughout the semester there will be individual and group projects designed to teach you aspects of research design. You may expect one or two assignments each week.

**Group paper**

At the end of the semester your group will provide a written paper concerning your project. Also at the end of the semester, I will ask you to rate and grade the performance of your teammates. Your feedback and evaluations will be taken into consideration when assigning and calculating the individual grades of the members of your group.

**Group poster**

During the schedule time for the final exam, your group will present a poster detailing your group's project. You will learn the basics of designing a scientific poster and will be expected to present your results. Faculty and graduate students may attend your poster and ask you questions about your research.

**Participation**

At the beginning of each class I will randomly choose one student to answer a question from the assigned readings. I expect a high level of engagement with the material: take notes, write down your impressions or questions, talk with your classmates, bring examples from other classes, etc. Your participation is important not only to evaluate that engagement, but also to enrich the discussion and learning experience of your classmates. This means you must demonstrate a willingness to 1) answer questions posed in class, 2) pose your own questions when you have them, and 3) engage in discussions we hold during class.

**Re-grading policy**

I do not encourage requests for re-grading. But if you want to ask for one, contact me directly. You will have to write a one-page memo justifying the request for re-grading. This justification should not only have solid arguments but also evidence and code supporting it. After receiving this memo, I will personally re-grade the problem set but you should know that I will do it from scratch so there is a risk that you will lose points in other sections different from those under review. Grade appeals will only be considered if submitted, in writing, up to one week after the assignment is returned. However, no adjustments will be made to final grades under any circumstances.

**Course Policies TA/Lab instructor**

The teaching assistant for this class is Santiago Lopez, a PhD student in the political science department. Santiago will conduct lab sessions. He is here to help you with the class material as well as with the programming learning curve. However, he is not part of the IT department or a personal programming assistant: he is under no obligation of solving every single technical, programming or substantive issue that you encounter in this course.

**Late work**

Assignments are due at the date and time specified on Canvas. Late assignments will be marked off at 10 percentage points for the first 24 hours late, and an additional 10 percentage points for every subsequent 24 hours late at the discretion of the instructor.

Important note: Students are responsible for submitting working, uncorrupted files for all assignments. If a file is corrupted and needs to be re-sent, and re-sending happens after the assignment deadline, a late penalty will be assessed. Penalties for late R lab exercises or missed assignments may be waived under the following three circumstances:

1. a death in the immediate family (parent, spouse, sibling, or child) within two weeks before the assignment due date;
2. in the event of an unforeseeable medical emergency affecting you, your spouse, or your child; or
3. participation in a Rice-sponsored academic or sporting event.

In the event of (1) or (3), you must give me at least 24 hours advance notice and preferably more (via e-mail) that you will miss the assigned task, or it may not be made up. For all of those three reasons, I will require supporting documentation. All penalty waivers are at the discretion of the instructor. Under these circumstances, I will extend your homework due date. Important note: conflicts with a work schedule, non-academic trip, or vacation are not a valid reason to miss any assignment and cannot be the basis for a penalty waiver; please do not ask for it.

**Asking questions**

The course is designed to be challenging in a way that many questions emerge, especially when answering lab exercises. Some of those questions are small and will have a straightforward answer; others might be more complex and will have an ambiguous answer (or multiple answers!). Santiago and I are there to help you find the answers to some of those questions. However, before you visit our office hours, make sure to go through all the steps of the following "question ladder":

1. Use resources like books, online tutorials, Google, and support sites like Stackoverflow. Try to find the answer for no more than 30 minutes. If after 30 minutes you are still struggling with your question, go to step 2.
2. Ask your classmates. Most of the time the question or issue you have is a question your friend has too. Best scenario is that they already have the solution, but if not, you can look for it together.
3. If step 2 fails, ask your question during the lab session. This is the perfect set up to pose a question and get a good and fast answer. If you still have some questions or doubts, then ask your question in regular class.
4. If for some powerful reason you have an urgent question that cannot be addressed in lab or class, then attend Santiago's office hours. Otherwise, visit my office hours.

5. Only in extraordinary circumstances we will answer questions by e-mail. If these questions are related to a lab exercise, problem set or assignment, they need to be sent minimum 24 hours before the deadline of such submission. After that window, we will not answer any questions related to the assignment.

**E-mail etiquette**

We will try our best to answer e-mails promptly. However, keep in mind that we will do it at appropriate times; this means, do not expect to receive a quick answer if you send an e-mail outside of working hours or during the weekend. Also, when writing an e-mail remember to be kind, respectful and professional, and to address Santiago and me appropriately. For useful tips (not only for this class but for your professional life), check 15 Email Etiquette Rules Every Professional Should Follow.

**Rice Honor Code**

In this course, all students will be held to the standards of the Rice Honor Code, a code that you pledged to honor when you matriculated at this institution. If you are unfamiliar with the details of this code and how it is administered, you should consult the Honor System Handbook at http://honor.rice.edu/honor-system-handbook/. This handbook outlines the University's expectations for the integrity of your academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process.

**Disability Resource Center**

If you have a documented disability or other condition that may affect academic performance you should: 1) make sure this documentation is on file with the Disability Resource Center (Allen Center, Room 111 / adarice@rice.edu) to determine the accommodations you need; and 2) talk with me to discuss your accommodation needs.

## Course Schedule

**(This is subject to change – check Canvas Modules for each day)**

**Week 1**

Tue., Jan. 26

⇒ Course introduction

- Imai, 1.1 and 1.2
- Druckman, James, Samara Klar, Yanna Krupnikov, Matthew Levendusky, John Barry Ryan. 2020 “The Political Impact of Affective Polarization: How Partisan Animus Shapes COVID-19 Attitudes.” Working Paper. Northwestern Institute for Policy Research.

Read one of the following articles:

- Anderson, Noel, and Alec Worsnop. 2019. “Fatality Thresholds, Causal Heterogeneity, and Civil War Research: Reconsidering the Link between Narcotics and Conflict.” Political Science Research and Methods 7(1): 85-105.
- Cantu´, Francisco. 2019. “The Fingerprints of Fraud: Evidence from Mexico’s 1988 Presidential Election.” American Political Science Review 113(3): 710-26.
- Gervais, B., Evans, H., & Russell, A. (2020). Tweeting for Hearts and Minds? Measuring Candidates’ Use of Anxiety in Tweets During the 2018 Midterm Elections. *PS: Political Science & Politics, 53*(4), 652-656. doi:10.1017/S1049096520000852
- White, Ariel. 2019. “Misdemeanor Disenfranchisement? The Demobilizing Effects of Brief Jail Spells on Potential Voters.” American Political Science Review 113(2): 311-24.

Thu., Jan. 28 – Class

⇒ Political Science Questions

- Toshkov, Chapter 1

Thu., Jan. 28 – Lab

Lab: Basics of RStudio

- Imai, Chapter 1

**Week 2**

Tue., Feb. 2 - Class

⇒ Types of Research

- Toshkov, Chapter 2, pp. 23 - 44.
- King, Gary, Jennifer Pan, and Margaret E. Roberts. 2013. How censorship in China allows government criticism but silences collective expression. American Political Science Review 107(02): 326-43.
- Victor, Jennifer Nicoll. "Let's Be Honest about Election Forecasting." *PS: Political Science & Politics* (2020): 1-3.

Thu., Feb. 4 - Class

⇒ Research Questions

- Toshkov, Chapter 2, pp. 44 - 55
- Gustafsson, Karl, and Linus Hagstro¨m. 2018. "What Is the Point? Teaching Graduate Students How to Construct Political Science Research Puzzles." European Political Science: 1-15.

Thu., Feb. 4 - Lab

⇒ Lab: R and data exploration

**Week 3**

Tue., Feb. 9 - Class

⇒ Literature

- Toshkov, Chapter 3, pp. 56 - 67
- Knopf, Jeffrey W. 2006. "Doing a Literature Review." PS: Political Science & Politics 39(1): 127-32.
- The "CRAAP" test (find it in Canvas)

Thu., Feb. 11 - Class

⇒ Literature/Theory

- Toshkov, Chapter 3, pp. 67 - 80

- Acharya, Avidit, Matthew Blackwell, and Maya Sen. 2016. “The political legacy of American slavery.” The Journal of Politics 78(3): 621-41.

Thu., Feb. 11 - Lab

⇒ Lab: R graphics

**Week 4**

Tue., Feb. 16 - Class

⇒ Hypothesis testing

- Toshkov, Chapter 3, pp. 80 - 82
- Imai, Section 7.2, pp. 342-370.
- Mutz, Diana C., and Jahnavi S. Rao. 2018. “The Real Reason Liberals Drink Lattes.” PS: Political Science & Politics 51(4): 762-67.

Thu., Feb. 18 - Class

⇒ Concepts

- Toshkov, Chapter 4, pp. 81-100
- Marx, Benjamin, Thomas M. Stoker, and Tavneet Suri. 2015. “There is no free house: Ethnic patronage in a Kenyan slum.” American Economic Journal: Applied Economics 11(4): 36-70.

Thu., Feb. 18 - Lab

⇒ Lab: R and Data Transformation

**Week 5**

Tue., Feb. 23 - Class

⇒ Measurement (1)

- Imai, Sections 3.1-3.2, pp. 75-80.
- Toshkov, Chapter 5, pp. 107-116
- Rodon, T., & Guinjoan, M. (2021). Beaten ballots: Political participation dynamics amidst police interventions. *Political Science Research and Methods,* 1-18. doi:10.1017/psrm.2020.48

Thu., Feb. 25 - Class

⇒ Measurement (2)

- Imai, Sections 3.3-3.4, pp. 80-95.
- Toshkov, Chapter 5, pp. 117 - 122
- van der Windt, Peter. 2018. "Can Development Aid Empower Women? Evidence from a Field Experiment in the Congo." Journal of Politics 80(3): 1039-44. (And Appendix)

Thu., Feb. 25 - LAB

⇒ Lab: Catchup and basics

**Week 6**

Tue., Mar. 2 - Class

⇒ Measurement (3)

- Toshkov, Chapter 5, pp. 123 - 144
- Imai, Sections 3.5-3.6, pp. 96-108.

Thu., Mar. 4 - Class

⇒ Measurement (4)

- Imai, Sections 3.7-3.8, pp. 108-116.
- Kastellec, Jonathan P., and Eduardo L. Leoni. 2007. "Using Graphs Instead of Tables in Political Science." PS 5(4): 755-71.

Thu., Mar. 4 - Lab

⇒ Lab: R and putting together your data

**Week 7**

Tue., Mar. 9 - Class

⇒ Causality (1)

- Imai, Sections 2.1-2.3, pp. 32-48.
- Toshkov, Chapter 6, pp. 145 - 160
- van Weezel, Stijn. 2019. "On Climate and Conflict: Precipitation Decline and Communal Conflict in Ethiopia and Kenya." Journal of Peace Research 56(4): 514-28.

Thu., Mar. 11 - Class

⇒ Causality (2)

- Toshkov, Chapter 6, pp. 160 - 165
- Bechtel, Michael M., and Jens Hainmueller. 2011. "How lasting is voter gratitude? An analysis of the short-and long-term electoral returns to beneficial policy. American Journal of Political Science 55(4): 852-68.

Thu., Mar. 11 - Lab

⇒ Lab: R and creating measures

**Week 8**

Tue., Mar. 16 - Class (Sprinkle Day)

⇒ Experimental design (1)

- Toshkov, Chapter 7, pp. 166 - 186
- Beaman, Lori, Esther Duflo, Rohini Pande, and Petia Topalova. 2012. "Female leadership raises aspirations and educational attainment for girls: A policy experiment in India." Science 335(6068): 582-86.

Thu., Mar. 18 - Class

⇒ Experimental design (2)

- Toshkov, Chapter 7, pp. 186-199.
- Imai, Sections 2.4-2.5, pp. 48-63.
- Munger, Kevin. 2017. “Tweetement Effects on the Tweeted: Experimentally

Reducing Racist Harrassment.” Political Behavior 39(3): 629-49.

Thu., Mar. 18 - Lab

⇒ Lab: R and completed data frame

**Week 9**

Tue., Mar. 23 - Class

⇒ Large-N designs (1)

- Toshkov, Chapter 8, pp. 200 - 227
- Imai, Sections 4.2 and 6.4, pp. 139-156, 300-306.

Thu., Mar. 25 - Class

⇒ Large-N designs (2)

- Toshkov, Chapter 8, pp. 227 - 257
- Imai, Sections 4.2-4.4, pp. 161-182.
- Goldstein, Rebecca, and Hye Young You. 2017. “Cities as lobbyists.” American Journal of Political Science 61(4): 864-76.

Thu., Mar. 25 - Lab

⇒ Lab: R and measures of association

**Week 10**

Tue., Mar. 30 - Class

⇒ Comparative Designs (1)

- Toshkov, Chapter 9, pp. 258 - 269

Thu., Apr. 1 - Class

⇒ Comparative Designs (2)

- Toshkov, Chapter 9, pp. 269-284
- Dollar, David, Raymond Fisman, and Roberta Gatti. 2001. “Are women really the ’fairer’ sex? Corruption and women in government.” Journal of Economic Behavior & Organization 46(4): 423-29.

Thu., Apr. 1 - Lab

⇒ Lab: R-Planning your analysis

**Week 11**

Tue., Apr. 6 - Class

⇒ Case Studies (1)

- Toshkov, Chapter 10, pp. 285 - 297

Thu., Apr. 8- Class (Sprinkle Day)

⇒ Case Studies (2)

- Toshkov, Chapter 10, pp. 297-309
- Goffman, Alice. "On the Run: Wanted Men in a Philadelphia Ghetto." *American Sociological Review* 74, no. 3 (2009): 339-57.

Thu., Apr. 8 - Lab (Sprinkle Day)

⇒ Lab: R- Carrying out your analysis

**Week 12**

Tue., Apr. 13 - Class

⇒ Mixed Designs (1)

- Toshkov, Chapter 11, pp. 310 - 327

Thu., Apr. 15 - Class

⇒ Mixed Designs (2)

- Lammers, Pina Lena, Torsten Richter, Maren Lux, Jonah Ratsimbazafy, and Jasmin Mantilla-Contreras. 2017. “The Challenges of Community-Based Conservation in Developing Countries– a Case Study from Lake Alaotra, Madagascar.” Journal for Nature Conservation 40: 100-12.

Thu., Apr. 15 - Lab

⇒ Lab: Developing your Poster

**Week 13**

Tue., Apr. 20 - Class

⇒ Communicating research

- Toshkov, Chapter 12, pp. 328 - 335

Thu., Apr. 22 – Class

⇒ Ethics

- Boustead, A., & Herr, T. (2020). Analyzing the Ethical Implications of Research Using Leaked Data. *PS: Political Science & Politics, 53*(3), 505-509. doi:10.1017/S1049096520000323
- Toshkov, Chapter 12, pp. 335 - 344

Thu., Apr. 22 – Lab

⇒Lab: R-TBA

**Week 14**

Tue., Apr. 27

⇒ Further research

- Toshkov, Chapter 12, pp. 328 - 344
- Read the following sections in Imai: 5.1, 5.2

Thu., Apr. 29 – Class

⇒ Finalizing your Poster

- Read one of the following sections in Imai: 5.3
- Imai, Section 5.4, pp. 235-236.

Thu., Apr. 29 – Lab

⇒Lab: R-TBA

**Aftermath**

May. ??

⇒ Poster presentations during scheduled final exam

Wed., May 12

⇒ Paper Due